



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶: A61K 38/16	A1	(11) International Publication Number: WO 98/06418 (43) International Publication Date: 19 February 1998 (19.02.98)
(21) International Application Number: PCT/US97/13379 (22) International Filing Date: 4 August 1997 (04.08.97) (30) Priority Data: 60/022,467 9 August 1996 (09.08.96) US 60/030,317 1 November 1996 (01.11.96) US 60/057,017 24 July 1997 (24.07.97) US (71) Applicant (for all designated States except US): MANNAT- ECH, INC. [US/US]; Suite 200, 600 South Royal Lane, Coppell, TX 75019 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): McANALLEY, Bill, H. [US/US]; 4921 Corn Valley, Grand Prairie, TX 75052 (US). McDANIEL, H., Reginald [US/US]; 4 Woodland Drive, Mansfield, TX 76063 (US). MOORE, D., Eric [US/US]; 832 Teakwood Place, Richardson, TX 75080 (US). VENNUM, Eileen, P. [US/US]; 2229 N. Westfield, Grand Prairie, TX 75050 (US). FIORETTI, William, C. [US/US]; 2224 Lakeridge Drive, Grapevine, TX 76051 (US). (74) Agent: BROWN, Randall, C.; Akin, Gump, Strauss, Hauer & Feld, L.L.P., Suite 4100, 1700 Pacific Avenue, Dallas, TX 75201-4675 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>

(54) Title: COMPOSITIONS OF PLANT CARBOHYDRATES AS DIETARY SUPPLEMENTS**(57) Abstract**

Compositions of plant carbohydrates for dietary supplements and nutritional support for promotion and maintenance of good health. Defined nutritionally effective amounts of one to eleven essential saccharides, glyconutrients, are used in various inventive compositions as dietary supplements. The dietary composition herein can include phytonutrients, vitamins, minerals, herbal extracts, and other non-toxic nutrients. The glyconutritional dietary supplement herein provides essential saccharides which are the building blocks of glycoproteins. These compositions, when administered orally or topically, have been found to improve the well being of mammals suffering from a variety of disorders.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

EC'D	06 OCT 1998
WIPO	PCT

Applicant's or agent's file reference 013258-0025	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US97/13379	International filing date (day/month/year) 04 AUGUST 1997	Priority date (day/month/year) 09 AUGUST 1996
International Patent Classification (IPC) or national classification and IPC IPC(6): A61K 38/16 and US Cl.: 514/8		
Applicant MANNATECH, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets.
- ☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07 JANUARY 1998	Date of completion of this report 02 SEPTEMBER 1998
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer GABRIELLE BROUILLETTE Telephone No. (703) 308-1235

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US97/13379

I. Basis of the report

1. This report has been drawn on the basis of *(Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments)*:

☐ the international application as originally filed.

☒ the description, pages (See Attached) , as originally filed.

pages _____ , filed with the demand.

pages _____ , filed with the letter of _____.

pages _____ , filed with the letter of _____.

☒ the claims, Nos. (See Attached) , as originally filed.

Nos. _____ , as amended under Article 19.

Nos. _____ , filed with the demand.

Nos. _____ , filed with the letter of _____.

Nos. _____ , filed with the letter of _____.

☒ the drawings, sheets/fig (See Attached) , as originally filed.

sheets/fig _____ , filed with the demand.

sheets/fig _____ , filed with the letter of _____.

sheets/fig _____ , filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

☒ the description, pages NONE.

☒ the claims, Nos. NONE.

☒ the drawings, sheets/fig NONE.

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the ~~Supplemental Box~~ Additional observations below (Rule 70.2(c)).

4. Additional observations, if necessary:

NONE

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US97/13379

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. STATEMENT**

Novelty (N)	Claims <u>1-17</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-17</u>	NO
Industrial Applicability (IA)	Claims <u>1-17</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-17, meet the criteria set out in PCT Article 33(2) because the prior art does not teach or fairly suggest a dietary supplement which comprises a composition consisting essentially of at least one saccharide selected from the group consisting of galactose, glucose, mannose, xylose and acetylated mannose in monomeric, oligomeric or polymeric and derivatized or underivatized forms and at least one saccharide selected from N-acetylneuraminic acid, fucose, N-acetylgalatosamine, N-acetylglucosamine, arabinose, glucuronic acid, galaturonic acid, iduronic acid and arabinogalactan.

Claims 1-17 lack an inventive step under PCT Article 33(3) as being obvious over KONNO. KONNO teaches a dietary fiber and pharmaceutical composition comprising a sugar component which comprises at least sucrose, xylose and galactose, as well as arabinose. The composition can be used in various dietary products such as powdered soups, seasonings and sweeteners, candies, cheese, cookies, noodles and rice cakes. KONNO does not disclose powdered fruits and vegetables, dioscorea complex and xanthines, however these components are well known supplements to dietary formulations.

Claims 1-17 meet the criteria set out in PCT Article 33(4), because the invention has use in providing a nutritional supplement to those patients in need thereof.

----- NEW CITATIONS -----

US 5,308,618 A (KONNO et al.) 03 May 1994, see column 2, lines 30-65; column 5, line 25 through column 6, line 10.

US 4,859,488 A (KAN et al.) 22 August 1989, see entire document.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US97/13379

VI. Certain documents cited**1. Certain published documents (Rule 70.10)**

<u>Application No. Patent No.</u>	<u>Publication Date (day/month/year)</u>	<u>Filing Date (day/month/year)</u>	<u>Priority date (valid claim) (day/month/year)</u>
US 5,710,270	20 JANUARY 1998	14 MAY 1996	NONE

2. Non-written disclosures (Rule 70.9)Kind of non-written disclosureDate of non-written disclosure
(day/month/year)Date of written disclosure
referring to non-written disclosure
(day/month/year)

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

I. BASIS OF REPORT:

This report has been drawn on the basis of the description,
pages, 1-27, as originally filed.
pages, NONE, filed with the demand.
and additional amendments:
NONE

This report has been drawn on the basis of the claims,
numbers, 11-17, as originally filed.
numbers, NONE, as amended under Article 19.
numbers, NONE, filed with the demand.
and additional amendments:
Claims 1-10, filed with the letter of 11 August 1998.

This report has been drawn on the basis of the drawings,
sheets, NONE, as originally filed.
sheets, NONE, filed with the demand.
and additional amendments:
NONE

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
PAMELA J. SHERWOOD
BOZICEVIC, FIELD & FRANCIS, L.L.P.
200 MIDDLEFIELD ROAD
SUITE 200
MENLO PARK, CA 94025

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

Date of Mailing (day/month/year) 05 NOV 2002	
Applicant's or agent's file reference STAN-211WO	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US02/11356	International filing date (day/month/year) 10 April 2002 (10.04.2002)
Applicant BOARD OF TRUSTEES OF THE LELAND STANFORD JR. UNIV.	

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34, chemin des Colombettes
1211 Geneva 20, Switzerland. Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.
3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
 - ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90 *bis*.1 and 90 *bis*.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US Commissioner for Patents Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer My-Chau T. Tran Telephone No. 703-308-0196
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference STAN-211WO	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US02/11356	International filing date (<i>day/month/year</i>) 10 April 2002 (10.04.2002)	(Earliest) Priority Date (<i>day/month/year</i>) 10 April 2001 (10.04.2001)
Applicant BOARD OF TRUSTEES OF THE LELAND STANFORD JR. UNIV.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the Report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,



✓ the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



✓ the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 1



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/11356

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-25

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/11356

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 33/53, 33/548, 33/564, 33/569; C07K 5/00

US CL : 436/506, 507, 518; 435/5, 7.1, 7.92

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 436/506, 507, 518; 435/5, 7.1, 7.92

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,578,496 A (ATASSI et al.) 26 November 1996 (26.11.1996) entire document	1-25
Y	US 5,486,452 A (GORDON et al.) 23 January 1996 (23.01.1996), entire document	1-25
Y	US 5,637,454 A (HARLEY) 10 June 1997 (10.06.1997), entire document	1-25
Y	US 4,865,970 A (BROT et al.) 12 September 1989 (12.09.1989), entire document	1-17
Y	US 5,354,691 A (VAN EDEN et al.) 11 October 1994 (11.10.1994), entire document	1-17
Y, P	US 6,232,088 B1 (FRANKLIN et al.) 15 May 2001 (15.05.2001), entire document	18
Y	US 6,207,645 B1 (HOWELL et al.) 27 March 2001 (27.03.2001), entire document	19-25
Y,P	US 6,241,985 B1 (MADIYALAKAN et al.) 5 June 2001 (05.06.2001), entire document	19-25



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" - document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

26 June 2002 (26.06.2002)

Date of mailing of the international search report

05/07/2002

Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

My-Chau T. Tran

Telephone No. 703-308-0196

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/11356

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-25, drawn to a method for determining an antibody specificity profile in a patient with immunerelated disease.

Group II, claim(s) 26-33, drawn to a method for treating autoimmune disease.

Group III, claim(s) 34-35, drawn to a method for determining an antibody specificity profile in a patient with autoimmune diabetes.

Group IV, claim(s) 36-37, drawn to a method for treating insulin-dependent diabetes mellitus.

The inventions listed as Groups I-IV do not relate to a single general inventive concept under PCT Rule 13.1 because, pursuant to 37 CFR 1.475(d), the ISA/US considers that where multiple processes are claimed, the main invention shall consist of the first invention of the category first mentioned in the claims and the first recited invention of each of the other categories related thereto. Accordingly, the main invention (Group I) comprises the first recited method, a method for determining an antibody specificity profile in a patient with immunerelated disease. Further pursuant to 37 CFR 1.475(d), the ISA/US considers that any feature which the subsequently recited methods share with the main invention does not constitute a special technical feature within the meaning of PCT Rule 13.2 and that each of such methods accordingly defines a separate invention.

The special technical feature of Group I is considered to be preparing an antigen array comprising two disease associated antigen elements provided the disease is not insulin dependent diabetes mellitus.

The special technical feature of Group II is considered to be designing a patient specific treatment regimen based upon the antigen specificity profile.

The special technical feature of Group III is considered to be preparing an antigen array comprising four insulin-dependent diabetes mellitus-associated antigens.

Since the technical feature of Group I is not present in Groups II-IV claims and the technical feature of Groups II-IV inventions is not present in Group I claims, unity of invention is lacking. Since the technical feature of Group II is not present in Groups III-IV claims and the technical feature of Groups III-IV inventions is not present in Group II claims, unity of invention is lacking. Since the technical feature of Group III is not present in Groups IV claims and the technical feature of Groups IV invention is not present in Group III claims, unity of invention is lacking.

It is noted that claim 33 is an improper dependent claim because it depend upon itself.

CHAPTER I
PCT TELEPHONE MEMORANDUM
FOR
LACK OF UNITY OF INVENTION



PCT No.: PCT/US02/11356

Examiner: My-Chau T. Tran

Attorney spoken to: Mrs. Pamela J. Sherwood

Date of call: 26 June 2002

- ☐ Amount of payment approved:
- ☐ Deposit account number to be charged:
- ☐ Attorney elected to pay for ALL additional inventions
- ☐ Attorney elected to pay only for the additional inventions covered by
- ☐ Group(s):
- encompassing --
- ☐ Claim(s):
- ☒ Attorney elected NOT to pay for any additional inventions, therefore, only the first claimed invention (Group I) covered by Claim(s) 1-25 has been searched.
- ☒ Attorney was orally advised that there is no right to protest for any group not paid for.
- ☒ Attorney was orally advised that any protest must be filed no later than 15 days from the mailing of the Search Report (PCT/ISA/210).

Time Limit For Filing A Protest

Applicant is hereby given 15 days from the mailing date of this Search Report in which to file a protest of the holding of lack of unity of invention. In accordance with PCT Rule 40.2, applicant may protest the holding of lack of unity only with respect to the group(s) paid for.

Detailed Reasons For Holding Lack of Unity of Invention:

Please See Continuation Sheet

Note: A copy of this form must be attached to the Search Report.

ATTACHMENT TO CHAPTER I PCT TELEPHONE MEMORANDUM FOR LACK OF UNITY OF INVENTION

C ntinuation of Detailed Reasons For Holding Lack of Unity of Invention:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-25, drawn to a method for determining an antibody specificity profile in a patient with immunerelated disease.

Group II, claim(s) 26-33, drawn to a method for treating autoimmune disease.

Group III, claim(s) 34-35, drawn to a method for determining an antibody specificity profile in a patient with autoimmune diabetes.

Group IV, claim(s) 36-37, drawn to a method for treating insulin-dependent diabetes mellitus.

The inventions listed as Groups I-IV do not relate to a single general inventive concept under PCT Rule 13.1 because, pursuant to 37 CFR 1.475(d), the ISA/US considers that where multiple processes are claimed, the main invention shall consist of the first invention of the category first mentioned in the claims and the first recited invention of each of the other categories related thereto. Accordingly, the main invention (Group I) comprises the first recited method, a method for determining an antibody specificity profile in a patient with immunerelated disease. Further pursuant to 37 CFR 1.475(d), the ISA/US considers that any feature which the subsequently recited methods share with the main invention does not constitute a special technical feature within the meaning of PCT Rule 13.2 and that each of such methods accordingly defines a separate invention.

The special technical feature of Group I is considered to be preparing an antigen array comprising two disease associated antigen elements provided the disease is not insulin dependent diabetes mellitus.

The special technical feature of Group II is considered to be designing a patient specific treatment regimen based upon the antigen specificity profile.

The special technical feature of Group III is considered to be preparing an antigen array comprising four insulin-dependent diabetes mellitus-associated antigens.

Since the technical feature of Group I is not present in Groups II-IV claims and the technical feature of Groups II-IV inventions is not present in Group I claims, unity of invention is lacking. Since the technical feature of Group II is not present in Groups III-IV claims and the technical feature of Groups III-IV inventions is not present in Group II claims, unity of invention is lacking. Since the technical feature of Group III is not present in Groups IV claims and the technical feature of Groups IV invention is not present in Group III claims, unity of invention is lacking.

It is noted that claim 33 is an improper dependent claim because it depend upon itself.

Note: A copy of this form must be attached to the Search Report.

ATENT COOPERATION TRL. .FY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark
Office
(Box PCT)
Crystal Plaza 2
Washington, DC 20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing:

19 February 1998 (19.02.98)

International application No.:

PCT/US97/13379

Applicant's or agent's file reference:

013258-0025

International filing date:

04 August 1997 (04.08.97)

Priority date:

09 August 1996 (09.08.96)

Applicant:

McANALLEY, Bill, H. et al

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International preliminary Examining Authority on:
07 January 1998 (07.01.98)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer:

J. Zahra

Telephone No.: (41-22) 338.83.38

WO 98/06418

-28-

Claims

What is claimed is:

1. A dietary supplement for providing nutritional product saccharides which are essential components of glycoproteins in a mammal, said dietary supplement comprising a composition consisting essentially of nutritionally effective amounts of:
at least one saccharide, in monomeric, oligomeric or polymeric and derivatized or underivatized form, selected from the group consisting of:
galactose, glucose, mannose, xylose and acetylated mannose; and
at least one saccharide, in monomeric, oligomeric or polymeric and derivatized or underivatized form, selected from the group consisting of:
N-acetylneuraminic acid, fucose, N-acetylgalactosamine, N-acetylglucosamine, arabinose, glucuronic acid, galacturonic acid, iduronic acid, and arabinogalactan.
2. A dietary supplement for providing nutritional product saccharides which are essential components of glycoproteins in a mammal, said dietary supplement comprising a composition consisting essentially of nutritionally effective amounts of:
at least one saccharide, in monomeric, oligomeric or polymeric and derivatized or underivatized form, selected from the group consisting of:
galactose, glucose, mannose, xylose and acetylated mannose; and
at least two saccharides, in monomeric, oligomeric or polymeric and derivatized or underivatized form, selected from the group consisting of:
N-acetylneuraminic acid, fucose, N-acetylgalactosamine, N-acetylglucosamine, arabinose, glucuronic acid, galacturonic acid, iduronic acid, and arabinogalactan.
3. A dietary supplement for providing nutritional product saccharides which are essential components of glycoproteins in a mammal, said dietary supplement comprising a composition consisting essentially of nutritionally effective amounts of:
at least one saccharide, in monomeric, oligomeric or polymeric and derivatized or underivatized form, selected from the group consisting of:

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galactose, glucose, mannose, xylose and acetylated mannose; and
 at least three saccharides, in monomeric, oligomeric or polymeric and derivatized or
 underivatized form, selected from the group consisting of:

N-acetylneuraminic acid, fucose, N-acetylgalactosamine, N-acetylglucosamine,
 arabinose, glucuronic acid, galacturonic acid, iduronic acid, and arabinogalactan.

4. A dietary supplement for providing nutritional product saccharides which are
 essential components of glycoproteins in a mammal, said dietary supplement
 comprising a composition consisting essentially of nutritionally effective amounts
 of:

at least one saccharide, in monomeric, oligomeric or polymeric and derivatized or
 underivatized form, selected from the group consisting of:

galactose, glucose, mannose, xylose and acetylated mannose; and

at least four saccharides, in monomeric, oligomeric or polymeric and derivatized or
 underivatized form, selected from the group consisting of:

N-acetylneuraminic acid, fucose, N-acetylgalactosamine, N-acetylglucosamine,
 arabinose, glucuronic acid, galacturonic acid, iduronic acid, and arabinogalactan.

5. A dietary supplement for providing nutritional product saccharides which are
 essential components of glycoproteins in a mammal, said dietary supplement
 comprising a composition consisting essentially of nutritionally effective amounts
 of:

at least one saccharide, in monomeric, oligomeric or polymeric and derivatized or
 underivatized form, selected from the group consisting of:

galactose, glucose, mannose, xylose and acetylated mannose; and

at least five saccharides, in monomeric, oligomeric or polymeric and derivatized or
 underivatized form, selected from the group consisting of:

N-acetylneuraminic acid, fucose, N-acetylgalactosamine, N-acetylglucosamine,
 arabinose, glucuronic acid, galacturonic acid, iduronic acid, and arabinogalactan.

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6. A dietary supplement according to claim 1, 2, 3, 4, or 5 wherein at least one of said saccharides is provided in oligomeric or polymeric form as found in:

gum tragacanth, guar gum, grain flour, rice flour, sugar cane, beet sugar, potato, milk, agar, algin, locust bean gum, psyllium, karaya gum, seed gums, Larch tree extract, aloe vera extract, gum ghatti, starch, cellulose, degraded cellulose, fructose, high fructose corn syrup, pectin, chitin, acacia, gum arabic, alginic acid, carrageenan, dextran, xanthan gum, chondroitin sulfate, sucrose, acetylated polymannose, maltose, glucan, lentinan, mannan, levan, hemi-cellulose, inulin, fructan, and lactose.

7. A dietary supplement according to claim 1, 2, 3, 4, or 5 further comprising a nutritionally effective amount of dioscorea complex.

8. A dietary supplement according to claim 1, 2, 3, 4, or 5 further comprising a nutritionally effective amount of a blend consisting of ripened and freeze-dried and powdered raw fruits and vegetables.

9. A dietary supplement according to claim 8 further comprising nutritionally effective amounts of xanthines and herbal body-toning agents.

10. A dietary supplement according to claim 8, wherein said blend consisting of ripened and freeze-dried and powdered raw fruits and vegetables comprises: